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ABSTRACT

This paper discusses a variety of incentives that can make a difference in attracting and retaining high quality teachers. These incentives include salaries, retirement benefits, working conditions, quality of life, tenure and seniority rights, and sick leave. The states in the Northeast vary considerably in their ability to attract quality teachers to begin and continue teaching. Rankings and comparisons on each of these factors are presented for the seven states: Connecticut, Maine, New Hampshire, New York, Rhode Island, Massachusetts, and Vermont. A recommendation is made that states in the region should consider developing and adopting policies that will support transfer of benefits like tenure and sick leave to a new district if a teacher changes districts or states. (JD)

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The Critical Role of Teacher Incentives in the Northeast States

David Title

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The Regional Laboratory
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The Critical Role of Teacher Incentives in the Northeast States

David Title

March, 1989

The Regional Laboratory for Educational Improvement
of the Northeast and Islands
290 South Main Street
Andover, Massachusetts 01810

Sponsored by
The Office of Educational Research and Improvement,
U.S. Department of Education

The Critical Role of Teacher Inventives in the Northeast States

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Overview and Purpose

Some states experience teacher shortages in some teaching disciplines while others find themselves with a teacher surplus. Because the distribution of qualified teachers is uneven, some states find many qualified applicants for each position and others find it increasingly difficult to attract quality applicants. Attracting competent teachers to the areas of shortage is a legitimate concern for policymakers trying to provide a quality education.

As demand for teachers increases over the next decade because of increasing enrollment, a critical concern for policymakers in the Northeast* will be expanding the supply of qualified teachers willing to work in the region's schools. Three sources will supply the bulk of teachers for any given state: new college graduates, certified teachers not currently in teaching positions, and teachers from neighboring states certifiable in another state. The extent to which a state can attract the potential teachers from these sources into the teaching profession in its state will determine whether its supply of quality teachers will be sufficient to meet anticipated demand.

Potential teachers from all three sources have alternatives to entering teaching that may be quite attractive. New college graduates may choose to work in private businesses. Former teachers may find their new lifestyles (raising children or new job or both) quite attractive. Finally, most teachers in a given state may find it attractive to stay in their positions -- or, if dissatisfied, to leave teaching altogether. In short, many potentially qualified teachers have significant incentive to choose a non-teaching alternative.

On the other hand, there are people in these three groups who would become teachers, re-enter the profession, or move if the job were attractive enough. These are potential teachers "on the fence": the undecided certified college graduate; the homemaker who might teach if the salary were high enough to cover the costs of day care; the former teacher itching to get back into the classroom to work with children if the incentives were right; the young teacher in one part of the Northeast looking for a change of scenery. We do not know how many potential teachers are "on the fence." We do know there are some people we cannot attract to teaching in any state no matter what the circumstances. However, making the teaching profession attractive in a given state may just push some potentially qualified teachers onto the teaching side of the fence.

Teachers, then, can be seen as we see other working individuals -- responding to incentives that determine whether or not they decide to teach at all, how long they stay in teaching, and in which district they will teach. Not all incentives are monetary, and some states offer greater incentives to potential teachers than other states. Using this framework, we can see why some states have a greater supply of quality teachers to draw upon than others.

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*Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont

Expanding enrollments also provide greater opportunities for teachers to move between states as more teaching jobs become available (Greenberg and McCall, 1974a). The first step in trying to determine the most effective means of attracting quality teachers to fill these positions is to determine what incentives are important to teachers. These incentives become all the more important in attracting new college graduates, as well as experienced and former teachers, as enrollments increase.

Second, if we are to encourage would-be teachers to move from one state to another, we need to know what factors influence a teacher's decision to move. There is evidence that one-fourth of all teachers have taught in two or more states in their careers (Gerardi, 1984). Most research has concentrated on why teachers move within school districts or between school districts in the same state. However, some of this research can help us understand why teachers might move from one state to another.

Third, we need to determine what additional barriers or incentives exist for teachers considering an inter-state move. Some of the factors determining teacher mobility within a state apply as well to inter-state moves, but additional factors need to be considered. The best example of one such factor is a state's retirement laws, which will be examined in detail in Section III of this paper. Having gathered this information on the seven states in the Northeast, we may be able to explain why some states have more difficulty attracting quality teachers than others.

Naturally, substantial intra-state variation exists in the ability to attract quality teachers. While a state as a whole may have no difficulty attracting teachers, individual districts within that state may have an exceedingly difficult time. For example, New York State's average salaries are fairly high for the region, a teacher in that state with a Master's Degree and the maximum years of experience may earn anywhere from $26,055 to $45,045. Some districts in generally low-paying New Hampshire have starting salaries at $18,000 or higher; other districts are paying $14,000 or less. It is incorrect, therefore, to infer that all districts in a given state share the average characteristics of that state as a whole.

Policymakers in each state need to consider the impact of increasing the mobility of teachers across state lines. On the one hand, reducing barriers to mobility puts more teachers and would-be teachers "on the fence" -- that is, more able to change jobs or enter teaching -- thereby expanding the potential supply of quality teachers. Unfortunately, this freer movement of teachers may work to the detriment of those states most desperately in need of teachers.

Freer movement between states would benefit the states with shortages only if those states make teaching more attractive to the so-called fence-sitters. States paying low salaries, for example, would need to raise them to compete with high-salary states in order to attract potential teachers from other states and to avoid losing teachers from their own state who may find it more attractive to teach elsewhere. To prevent this occurrence, low-incentive states must simultaneously improve incentives and reduce barriers to mobility for potential teachers if the supply of teachers in those states is to be enlarged. Reducing barriers alone will serve only to make the situation worse for low-incentive states.

Incentives That Matter

Salaries

Salaries matter. They matter in determining who will apply for a position, who will accept a position, who will move to take another teaching position, and how long a person stays in teaching. If significant differences in salaries exist across the region in salaries, then those states with low salaries will find it increasingly difficult to attract good teachers, keep them from moving and keep them in teaching altogether.

One study of first-year teachers in urban, rural, and suburban school districts in New England found that salaries were the most important reason teachers gave for why they would move to another teaching position (Matthes and Carlson, 1986). Another study found that teachers paid below the market wage will move to higher-paying districts (Baugh and Stone, 1982). There is evidence that increasing salaries relative to the market wage significantly decreases a teacher's probability of moving. Teachers do move to other districts that offer higher salaries (Eberts and Stone, 1983).

A legislative study in Iowa in 1985 found that many teacher candidates from within that state were opting to leave the state because of the low salary, and that a number of five-to-ten year teachers were opting for other professions because of pay or other career opportunities (Murphy, 1988). Closer to home, the Connecticut Education Association reports that Western Massachusetts teachers "are actively seeking teaching positions across the border in Connecticut." It quotes a Springfield (MA) newspaper that says that Western Massachusetts schools "are facing the prospect of an exodus of their 'best and brightest' teachers, lured by higher salaries in nearby Connecticut" (Connecticut Education Association, 1988).

The Metropolitan Life Survey of The American Teacher in 1985 found that the single biggest reason why teachers would consider leaving the classroom was the low salary, and a similar survey of former teachers concluded that salary was the single most important force in their decision to leave the classroom (Harris, 1985a and 1985b). Another study (Murnane and Olsen, 1988) found that how long teachers stay in teaching depends critically on salaries and opportunity costs. Those teachers with the highest salaries relative to what they could reasonably expect to earn outside of teaching tend to stay the longest in the profession. This study also showed that salaries had a direct influence on the length of stay: higher salaried teachers remained in the classroom longer than lower salaried teachers.

The concept of opportunity costs is critical to understanding teacher incentives. The studies cited above show that teachers act rationally in response to opportunities they know about either within teaching or outside of teaching. When teachers are able to procure higher salaries in another district or in another field, those "on the fence" move to the higher-paying district or field. Murnane and Olsen found that, holding salaries within teaching constant, the length of one's teaching career is tied directly to one's subject area. Since the opportunities for physics and chemistry teachers, for example, are greater in private industry than, say, for history teachers, it follows that science teachers would be more likely to leave teaching earlier than their counterparts in the humanities. In fact, their study found this to be true.

High salaries, then, act as an incentive to attract teachers not only from other states but also to other fields. States with high salaries attract greater numbers of quality applicants into teaching and these teachers are likely to remain in the field longer than those teachers attracted to low-salary states. Figure 1, "1987-88 Teacher Salary Matrix," presents the salary data from the northeastern states.

Previous studies of teacher salaries have relied almost exclusively on the average salary as the statistic of comparison (e.g., National Education Association's Estimates of School Statistics). It has been shown that this statistic is misleading because teachers' salaries are determined not only by the schedule itself but also by teachers' experience and educational credentials (Murnane, Singer, and Willett, 1987).

An aging of the teaching force by itself can force the average salary higher without any real increase in the salary schedule. In part because of declining enrollment, the average experience of public school teachers in the United States increased from 11 to 13 years from 1971 to 1981, and the percentage of teachers with a Master's Degree increased from 27 to 49 percent. Thus, the differences in average teacher salaries may not accurately reflect the salary schedule a potential teacher sees when deciding whether or not to enter the classroom. For this reason, then, salaries from the schedules of individual school districts more accurately provide this information.

An examination of the 1987-88 Teacher Salary Matrix (Figure 1) reveals large differences in salaries paid to teachers in the Northeast. In terms of starting salaries, there are three tiers, from high to low: Connecticut and New York; Massachusetts and Rhode Island; and New Hampshire, Vermont, and Maine. The percentile salaries show the range in each state and where significant intra-state variation exists. When potential teachers contemplate which state to teach in, they will find that nearly all districts in Connecticut pay $20,000, yet some districts in New York start teachers at $16,000, even though New York's average is higher than Connecticut's. Rhode Island has little variation in its pay schedules. Notwithstanding these variations, a clear pattern in starting salaries in the region emerges from these data.

At the Master's maximum level, Rhode Island salaries nearly reach those of the top tier, while Massachusetts salaries slip closer to those of the bottom tier. Rhode Island teachers, in fact, need fewer years of service to reach the top than teachers in any other state. New York's range shows substantial variation in salaries, with some districts paying close to the New Hampshire state average of $26,498. Teachers in Vermont overtake teachers in New Hampshire and Maine in salaries at this level after trailing them at the start of their careers.

Looking at the total picture, then, New Hampshire, Maine, and Vermont clearly trail the rest of the Northeast in teacher salaries. Moreover, teachers in Vermont, Maine, and New Hampshire work more years to reach the Master's maximum level than their counterparts in nearly every other state. There are few well-paying districts in those states. Some districts in other states offer salaries below what the northern states pay, but on the whole, a potential teacher sees a lower starting salary in New Hampshire,

Figure 1: 1987-88 TEACHER SALARY MATRIX[1]

	CT	ME	NH	NY[2]	RI	MA	VT
BA MINIMUM							
Avg. Salary	$20,767	$15,813	$15,877	$21,634	$17,447	$17,666	$14,966
5th Percentile	20,000	15,500	14,000	16,400	16,239	15,326	13,850
95th Percentile	22,730	16,749	18,000	23,898	18,675	19,721	16,450
MA MAXIMUM[3]							
Avg. Salary	35,487	27,311	26,498	36,200	33,883	30,292	27,384
5th Percentile	32,101	23,387	21,195	27,869	31,687	25,740	23,268
95th Percentile	39,569	31,394	31,282	46,149	35,074	34,360	31,980
Average Number of Steps to Reach this Level	12.4	18.0	14.3	18	10.0	10.6	16.0
Number of Districts Reporting	158	89	128	747	40	348	202

Sources: State Departments of Education of CT, NY, NH, RI; VT Schools Boards Association; Massachusetts Teachers Association; mail survey of Maine superintendents.

[1]Average salaries for each level were computed giving every district equal weight.

[2]New York data are medians, not averages.

[3]Maximum salary for a teacher with a Master's Degree.

Vermont, or Maine than in the other states. Ten years later, having earned a Master's Degree, that teacher will still be making considerably less money than colleagues in New York and the Southern New England states.

II. Incentives That Matter

Working Conditions

While salaries matter, teachers also care deeply about their working conditions. Unfortunately, aspects of working conditions are not easily quantifiable, and so comparison is difficult. For example, the perception of administrative support for teachers and community support for education matter to teachers (Matthes and Carlson, 1986), but these characteristics are hard to measure. The Metropolitan Life Survey showed that the second most important reason teachers gave for thinking of leaving the profession was poor working conditions. Moreover, thirty-six percent of teachers said they experience "great stress" on the job, compared with twenty-seven percent of American adults in general (Harris, 1985a).

We know that teachers care about teaching students who are motivated to learn, come to school every day, respect the teacher, and are not discipline problems (Lortie, 1975). Of teachers known to be considering leaving the profession, forty percent stated that their positive relationships with students kept them in the classroom (Harris, 1985a). We also know that teachers want recognition for a job well-done from students, parents, and peers. They want autonomy in the classroom without undue administrative interference, yet they want some administrative control of less effective teachers. Teachers want control over matters that affect their teaching and they do not want to be isolated from their peers (Johnson, in press). Teachers also care about increased parental involvement in the schools (Harris, 1987). While data are hard to gather, some progress has been made in studying this issue by using proxies that are measurable and correlated with working conditions.

Studies of intra-district mobility reveal that low socio-economic status (SES) schools typically have the least experienced teachers, showing that senior teachers (who have transfer rights) prefer high SES schools over low SES schools. There is abundant evidence that teachers in low SES schools feel they receive lower non-monetary rewards than teachers in high SES schools (studies cited in Sweeney, 1987). Another study shows that teachers within a state tend to move to districts with the highest test scores (Greenberg and McCall, 1974b). We also know that teachers value small classes, and that larger class size is associated with greater teacher mobility (Eberts and Stone, 1983).

All statistics purporting to measure true working conditions of teachers are misleading to some degree. They are useful only to the extent that they are correlated with what teachers truly care about. We also must make the assumption that all seven states measure these statistics in a comparable fashion. With these limitations in mind, then, we can see how the states compare in the area of working conditions (Figure 2, Working Conditions Matrix). Here is a brief description of the figures in the Working Condition Matrix:

A. ADA/ADM: Average Daily Attendance divided by the Average Daily Membership for the state. This statistic, expressed as a percent, is the attendance rate for the state. Since teachers care about teaching students who come to school on a regular basis, this piece of information may be helpful.

B. EXP/ADA: Per-pupil expenditures based on Average Daily Attendance. Listed is the percent increase in the figure from the 1986-87 school year to the 1987-88 school year. This figure could be a proxy for community support of education, which is important to teachers.

C. ADA/Teachers: Average Daily Attendance for the state divided by the total number of classroom teachers. This does not include non-instructional support personnel, such as classroom aides or lunchroom workers. This statistic approximates the student-teacher ratio statewide. Teachers care about class size, but class size data are nearly impossible to collect in this region. Class size is important to teachers; elementary teachers recently reported that their uppermost concern about their working conditions was overcrowded classrooms (Harris, 1985a).

D. ADA/Grads: Average Daily Attendance divided by the number of high school graduates in a given year. Since teachers care about teaching students who are going to pass and graduate, the graduation rate would be helpful. This is not a graduation rate, as such, but a rough idea of the number of graduates in the state per student who attends. This figure can be distorted because surges in enrollment at the elementary level could cause a state to look worse than it is even if the number of graduates remains constant. When looking across states in one year, however, it is reliable unless some states had larger enrollment changes in the elementary grades than other states during that year.

On the basis of the factors in the Working Conditions Matrix, Connecticut is the most desirable place in the Northeast to work. It has the best attendance rate and graduation ratio and is second in per-pupil expenditure and student-teacher ratio. New York fares well in these comparisons, with the highest per-pupil expenditure but the second-worst attendance rate.

Here is the rank of each state by factor for 1988:

Attendance	Per Pupil Exp.	Stud/Teacher	Grad Ratio
1. Conn.	1. New York	1. Mass.	1. Conn.
2. Maine	2. Conn.	2. Conn.	2. Mass.
3. Vermont	3. R.I.	3. New York	3. N.H.
4. N.H.	4. Mass.	4. Vermont	4. New York
5. R.I.	5. Vermont	4. R.I.	5. R.I.
6. New York	6. Maine	6. Maine	6. Vermont
7. Mass.	7. N.H.	7. N.H.	7. Maine

Figure 2: WORKING CONDITIONS MATRIX

STATE FACTOR	CT	ME	MA	NH	NY	RI	VT
ADA/ADM 1988[1]	97.4%	94.7%	89.7%	94.1%	90.7%	92.9%	94.6%
ADA/ADM 1987	97.2%	94.4%	90.1%	94.1%	90.7%	91.9%	94.7%
EXP/ADA 1988[2]	$6141	$4276	$5396	$3990	$6864	$5456	$4949
EXP/ADA 1987	$5552	$3650	$4856	$3386	$6299	$4574	$4459
% INC. 87 TO 88	10.6	17.2	11.1	17.8	9.0	19.3	1.0
ADA/Teachers 1988[3]	12.9	14.3	12.6	14.5	13.0	13.6	13.6
ADA/Teachers 1987	13.3	14.6	13.0	14.3	13.1	4.0	3.5
ADA/Graduates, 1988[4]	13.6	14.8	13.7	13.7	13.8	14.4	14.4
ADA/Graduates, 1987	13.5	14.1	13.3	13.1	14.1	14.1	14.5

Source: Estimates of School Statistics, 1987-88, as provided by the state departments of education.

[1]Attendance Rate

[2]Per Pupil Experience

[3]Student-Teacher Ratio

[4]Number of public high school graduates per student in attendance, K-12. This figure does not include equivalency certificates.

Connecticut, New York, and Massachusetts generally score consistently above New Hampshire and Maine. Rhode Island and Vermont are in the middle of the pack. There are exceptions, with Maine second in attendance but near or at the bottom in all other categories. New Hampshire is second in graduation ratio, but last in per-pupil expenditures and student-teacher ratio. Finally, it is not surprising to find the large differences in per-pupil expenditures given the information on the salary matrix. Since instructional salaries ordinarily account for up to 75 percent of the current account educational budget, low teacher salaries will, in most cases, translate into low per-pupil expenditures.

III. Retirement Laws

Retirement laws can have a substantial economic impact on teachers. While teachers with no experience may not consider retirement plans when deciding in which state to teach, retirement plans work as a powerful incentive for those teachers already in the teacher corps. While changing teaching positions within a given state does not ordinarily affect a teacher's retirement status, changing from one state to another may have a major economic impact in a variety of ways:

All states in the Northeast require ten years of credited service before a teacher is "vested" in that state's retirement system. Vesting means that a teacher is entitled to a retirement benefit from that state after ten years of service even if the teacher leaves. Teachers who leave a state prior to accumulating ten years of credited service do not qualify for any retirement benefit unless they return and eventually acquire ten years.

When a teacher leaves a state retirement system prior to vesting, that teacher may withdraw the money (with interest except in Rhode Island and Massachusetts). A teacher may leave the money in the retirement system if he or she intends to return to the state. Non-vested teachers considering a move benefit from the ability to take their money out of one state's retirement system and use it to purchase their years of service in a different state's retirement system. This process of "buying in" years of service accumulated out-of-state allows a teacher to move without losing the years spent before being vested in the previous state.

If a state does not allow a buy-in for prior out-of-state service, then upon moving, a teacher must begin the vesting process anew. Looking at Figure 3, Retirement Matrix, for example, a teacher with five years of experience in Massachusetts could move to Rhode Island, work for five years, and be vested in Rhode Island. On the other hand, that same teacher would have to work the full ten years to be vested in New Hampshire, but could withdraw the Massachusetts money.

Losing accumulated pension benefits has been regarded as a barrier to teacher mobility since at least 1951 (Jump, 1986). More recently, pension plans that penalize workers for changing jobs have been described as "a kind of indenturing system, a golden chain that fastens a person to his employer" (Greenough and King, 1976). One economist has estimated that a vested teacher who moves twice after age thirty will be eligible to receive 57 percent of the pension benefits of the permanent employee, all else being equal (Center for Policy Research, 1988). Another researcher estimates that a teacher with a

35-year career with two employers may receive only 70 percent of the benefits the teacher would have received had she remained 35 years with one employer, given identical salaries and benefits structures. Pension systems, therefore, have been shown to have an impact on teacher mobility, but the extent of the connection is unknown (Jump, 1986). As a result, the National Governor's Association has recommended addressing the issue of pension portability as a means to overcome this barrier to teacher mobility.

The importance of this particular incentive depends critically on the age of teachers most likely to move. Studies indicate that the younger the teacher, the more likely the teacher is to change districts (Greenberg and McCall, 1974b; Zabalza, Turnbull and Williams, 1979). These studies are important because they were conducted during times of expanding enrollments. Since we are entering a period of generally stable or increasing enrollments, we can expect more mobility on the part of younger teachers.

For all teachers, new and experienced alike, the form of the retirement system may act as an incentive. If one state requires a relatively low contribution from each paycheck and another state requires a high contribution, the buy-in may be problematic if the new state requires a higher percentage to be purchased on the buy-in than was previously withheld. Thus, a teacher may not be able to afford the year-for-year buy-in of another state even though the state permits it. Teachers may find it difficult to leave Vermont for this reason, since Vermont teachers do not contribute directly to the retirement fund and therefore receive no refund prior to vesting if they leave the state.

Several other factors could explain the attractiveness of a retirement system. A state that bases retirement benefits on the highest three years' average salary is more attractive than one that bases the benefit on the highest five years. Some states have early retirement plans, whereby one can retire before the stipulated age at a certain percentage of benefits. Finally, the maximum benefit and the likelihood of cost-of-living adjustments could serve as incentives or barriers to teachers considering a move.

An examination of Figure 3 reveals some barriers to movement between states in the Northeast. Three states (New Hampshire, New York, and Vermont) do not allow teachers to "buy in" years of service obtained in any other state. This prohibition seriously diminishes the attractiveness of moving to those states for teachers with some experience (Gerardi, 1984). Rhode Island allows up to a five-year buy-in, which is more attractive than New York, New Hampshire, or Vermont but less than the other four states. The ten-year buy-in allowed in Connecticut, Massachusetts, and Vermont would not discourage those teachers most likely to move -- the younger teachers. Maine allows an unlimited buy-in.

All states require ten years prior to vesting. Teachers who leave the state or the profession can get a full refund of their contributions (but no refund of any state contributions made on their behalf) in all the Northeast states. Rhode Island and Massachusetts do not refund accumulated interest on the retirement contributions (except, in Massachusetts, for teachers laid off). All other states refund any accumulated interest to the teacher.

Another variable with large differences across states is the percentage a teacher contributes to the retirement system. This contribution ranges from a low of zero percent in Vermont to a high of 8.5 percent in Rhode Island. Teachers moving from states with low rates of contribution may find it difficult to buy-in years of service in states with high rates of contribution since the money withdrawn from one state's fund will not cover the contributions necessary to purchase the credit in another state. Teachers from New York, Vermont, and New Hampshire, for example, may find it financially difficult to move to Connecticut, Maine, or Massachusetts, or Rhode Island for this reason.

Maine, New Hampshire, and Vermont have the lowest available maximum benefits. Since Vermont teachers do not contribute through payroll deductions to their plan, the fifty percent maximum may not appear unattractive, although a teacher must work 40 years to reach the maximum level). New Hampshire and Maine teachers will generally retire on a lower percentage of their salaries than Connecticut, New York, Rhode Island, or Massachusetts teachers.

One key factor in calculating retirement income is the basis of the benefit as well as the percentage to be received. Ordinarily, the basis is the highest three years' salary (except in Vermont, which uses five years). Salary, therefore, is a critical factor in retirement benefit. Since teachers in Maine, New Hampshire, and Vermont receive lower salaries, they can expect to receive far fewer dollars at retirement than their colleagues in New York, Rhode Island, Connecticut, and Massachusetts.

To illustrate this point, Table 1 below, lists the yearly benefits a retiree would expect to receive from each of the states in the region. This illustration assumes that the teacher has 35 years of credited service, retires at age 65, and elects the maximum benefit. The first column is the average maximum salary for a Master's Degree for 1987-88. The second column is the percentage of that salary the retiring teacher would receive under existing retirement regulations in that state. The third column is the yearly benefit that teacher would receive in the first year of retirement (most states have cost-of-living adjustments for subsequent years). The last column is the yearly percentage of one's salary the teacher contributes to the retirement fund.

Table 1: RETIREMENT COMPARISON

State	*Salary Basis*	*Percent*	*Yearly Benefit*	*Contrib.*
Connecticut	35,487	70.0%	24,841	6.0%
Maine	27,311	70.0%	19,118	6.5%
New Hampshire	26,498	53.0%	14,044	4.6%
New York	36,200	67.5%	24,435	3.0%
Rhode Island	33,883	80.0%	27,106	8.5%
Massachusetts	30,292	80.0%	24,234	8.0%
Vermont	27,384	43.8%	11,994	0.0%

Figure 3: RETIREMENT MATRIX

STATE	CT	ME	NH	NY	RI	MA	VT
Maximum No. of Years Buy-In[1]	10	no limit	0	0	5	10	0
Basis of Benefits[2]	Highest 3	Highest 3	Highest 3	Highest 3	Highest 3	Highest 3	Highest 5
Maximum Benefit	75% of basis	$\frac{\text{Yrs}}{50}$ x basis	$\frac{\text{Yrs}}{60}$ x basis[3]	60% + 1 1/2% for each year beyond 30	80% of basis	80% of basis	50% of basis
Years Required to Reach Max.	37 1/2	No Max	No Max	No Max	35	32	40
Years Prior to Vesting	10	10	10	10	10	10	10
Refund if you Leave?	your contrib. & interest	your contrib. & interest	your contrib. & interest	your contrib. & interest	your contrib. only	your contrib. (plus interest if laid off)	None
Percent Teacher Contributes of Yearly Salary[4]	6%	6.5%	4.6%	3%	8.5%	8%	0%

[1]The maximum number of years an experienced teacher may purchase when moving into the state.
[2]Average salary for the years indicated.
[3]After age 65, the benefit is yrs/66 x basis.
[4]Based on employees beginning service September, 1987

IV. Quality of Life and Cost-of-Living in the Northeast States

Like all workers, teachers are attracted to a particular state not only by the salaries, benefits, and working conditions, but also by the quality of life and cost-of-living in the area. Even though quality of life surely means different things to different people, this factor and cost-of-living have been shown to matter in attracting workers to particular areas (Krumm, 1980; Graves, 1983; Smith, 1983).

Researchers have been constructing quality of life indicators for many years. The difficulty has been in determining what factors comprise quality of life and how much weight to attach to each component of any index (Liu, 1976; Rosen, 1979; Robach, 1982; Blomquist et al., 1988). Even when the factors entered into the different quality of life indicators are substantially the same, the weights attached to each factor (representing what the researchers believe Americans value) can cause the ratings to vary dramatically.

Thus, while published rankings of geographic areas often stir great controversy, there is little national consensus about the most attractive or unattractive places to live. Cities rated high in one study may be rated low in another. Even within the same metropolitan area, one study found wide differences in the quality of life in neighboring counties (Blomquist et al., 1988). These discrepancies lead some people to believe that quality of life is simply an idiosyncratic decision which defies meaningful generalization.

A recent study with data for all the states in this region is the much-publicized Rand-McNally Places Rated Almanac (Boyer and Savageau, 1985). This study ranked 329 metropolitan areas, formally called Standard Metropolitan Statistical Areas (SMSAs), on nine factors, including climate, housing, health care and environment, crime, transportation, education, the arts, recreation, and economics[1].

An SMSA includes the city and its surrounding communities. Thus, one SMSA may contain information on parts of several counties[2]. In the Northeast, 84.6% of the population lives in SMSAs, but this ranges greatly, from just 22.3% in Vermont to 90.1% in New York (see Appendix C).

Some studies (Blomquist, et. al, 1988) provide more recent information for urban areas but include no information for Maine, New Hampshire, and Vermont. While the Almanac ratings include information from the northern states, the data are skewed toward the metropolitan areas and do not accurately reflect the costs of living or quality of life in solely rural areas in any of the Northeast states. Many SMSAs, however, do contain rural counties, particularly in New York state.

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[1]All factors were given equal weight in the overall ranking.

[2]Some SMSAs cover more than one state. In those cases, the state represented most prominently is associated with a given SMSA.

Table 2 ranks the overall quality of life for each state in this region. This state ranking is the average of the SMSAs from that state, with 1 being the best ranking and 329 being the worst. A complete list of the SMSAs for each state is in Appendices A and B; the averages were computed giving each SMSA equal weight. The number of SMSAs in each state ranges from a low of 1 in Vermont to a high of 13 in New York.

Table 2: RANKING OF STATES IN THE NORTHEAST ON NINE FACTORS OF QUALITY OF LIFE

	State						
Factor	CT	ME	MA	NH	NY	RI	VT
Climate & Terrain	2nd	6th	3rd	5th	4th	1st	7th
Housing	7th	1st	3rd	6th	2nd	4th	5th
Health Care & Environment	3rd	6th	4th	7th	5th	2nd	1st
Crime	5th	4th	7th	2nd	3rd	6th	1st
Transportation	5th	3rd	6th	7th	3rd	2nd	1st
Education	3rd	5th	7th	6th	4th	2nd	1st
Arts	1st	6th	4th	7th	2nd	3rd	5th
Recreation	5th	2nd	6th	7th	3rd	4th	1st
Economy	3rd	6th	4th	1st	5th	7th	2nd
Overall Composite	4th	5th	6th	7th	2nd (tie)	2nd (tie)	1st

The quality of life rankings show Vermont the highest overall with the best rating in five of the nine categories. Vermont's rating, however, is computed from only a single SMSA (Burlington), where 22.3 percent of the population of the state resides. We can conclude from this table that Burlington is relatively attractive, but we do not know if it is representative of life in Vermont as a whole.

The overall rankings conceal some strengths and weaknesses of the different states in the region. Potential teachers who value strong overall economy and a low crime rate, for example, may find New Hampshire quite attractive even though it ranks lowest overall. Maine is rated best in housing and second in recreation despite a ranking of fifth overall. Conversely, teachers may be favorably impressed by Vermont's high ranking, but may not be able to endure the winter's sub-zero temperatures. For those who value each of these nine items equally, however, these ranking may represent quality of life fairly accurately.

Cost of Living

Some states are more expensive to live in than others, and the largest purchase a teacher makes is likely to be a home. Home prices are not a perfect proxy for the cost of living, but the affordability of a home may be a key factor in determining whether a teacher or potential teacher can afford to move to a particular area.

Table 3 ranks the Northeast states on median home prices in 1987.

Table 3: MEDIAN HOME PRICES

State	*Home Price, 1987*
1. Vermont	$ 85,700
2. New York	87,920
3. Maine	94,100
4. Rhode Island	111,200
5. New Hampshire	129,600
6. Massachusetts	151,300
7. Connecticut	155,200

Another factor potential teachers might consider when selecting where to work is the tax burden. Table 4 lists statewide averages, not SMSA data. The per capita tax burden includes personal income taxes, sales taxes, gasoline taxes, driver's license fees, death and gift taxes, and auto registration costs. The United States average is $1,018. These data are from 1987.

Table 4: PER CAPITA TAX BURDEN

State	*Tax Burden*
1. New Hampshire	$ 932
2. Vermont	982
3. Rhode Island	1,065
4. Maine	1,085
5. Connecticut	1,358
6. New York	1,384
7. Massachusetts	1,446

Source: State Government Tax Collections in 1987

Table 5 lists the property tax on a $100,000 home by state in 1984. This was calculated by averaging the property tax of all the towns in the state.

Table 5: PROPERTY TAXES

State	*Property Tax on a $100,000 home*
1. Maine	$1,520
2. Connecticut	1,530
3. Vermont	1,600
4. Rhode Island	1,930
5. New Hampshire	2,390
6. Massachusetts	2,430
7. New York	2,570

Property taxes vary considerably across the region. Maine, Connecticut, and Vermont have the lowest property taxes; Rhode Island is in the middle; New Hampshire, Massachusetts, and New York have the highest property taxes. When per capita and property taxes are combined, New York taxes are the highest in the region, and Maine, New Hampshire and Vermont taxes, the lowest.

Reasonable people may differ about the attractiveness of low taxes. On one side, some argue that low taxes reduce the cost of living and make the area attractive. Low tax communities or states may argue they are more efficient and less wasteful than high tax communities or states and provide only services people really desire. Others argue that low taxes mean fewer services, and if people in an area want these services, they pay for them. A community with high property taxes, for example, may provide garbage pick-up that a community with low taxes does not. Another line of reasoning is that taxes are not an attraction or barrier: people who want low taxes and low service levels tend to live in those communities, and people willing and able to pay higher taxes for more services live in those communities.

Table 6: HOMEOWNER COSTS IN THE NORTHEAST

State	*Med. Home Price for 1987*[1]	*Mortgage With 20% Down*[2]	*Mortgage Per Month*[3]	*Mortgage Plus Taxes Per Year*[4]	*Net After-Tax Payout*[5]
VT	$ 85,700	$ 70,000	$ 615	$ 8,751	$ 6,301
ME	94,100	75,000	659	9,338	6,723
NY	87,920	70,000	615	9,640	6,941
RI	111,200	89,000	781	11,518	8,293
NH	129,600	104,000	913	14,053	10,118
CT	155,200	124,000	1,089	15,443	11,119
MA	151,300	121,000	1,062	16,421	11,823

[1]Source: Federal Home Loan Bank Monthly Mortgage Survey; New York State Association of Realtors. Single family houses only.

[2]Rounded to the nearest thousand.

[3]Assumes 20% down payment and a 10% mortgage paid over 30 years.

[4]Taxes are the 1984 statewide averages.

[5]Net yearly amount for mortgage and taxes in a 28% marginal federal income tax bracket.

Table 6, which shares a variety of homeowner costs in the Northeast, allows us to draw the following conclusions:

1. There are three tiers of homeowner costs: Vermont, Maine, and New York are the least expensive; New Hampshire, Connecticut, Massachusetts are considerably more expensive; and Rhode Island generally falls mid-way between the other two groups.

2. These groupings follow the tiers in the salary data, except:

   a) New York has low costs relative to its salaries;
   b) New Hampshire has high costs relative to its salaries, and to a lesser extent, the same is true of Massachusetts.

3. Low salaries in Vermont and Maine are partially, but not fully, offset by lower housing costs.

It should be kept in mind that these housing prices reflect neither the size nor quality of housing in the states. Houses are more expensive in some parts of the Northeast because, in some cases, houses are larger or of better quality than in other parts. Higher housing prices in certain areas also reflect greater demand in relation to available supply.

In summary, quality of life and cost-of-living are important factors in attracting teachers, and there is variation across the Northeast in both areas. On average, Maine is an inexpensive place in which to live, but its quality of life ranks next to the last in the region. Vermont has a high quality of life ranking, low-priced homes, and relatively low taxes. At the other end, New Hampshire has a low quality of life ranking, relatively expensive homes, and low taxes.

Other than Vermont, no state clearly stands out as a particularly attractive or unattractive place to live in general. Because of the wide variation even within a given metropolitan area in quality of life and in people's tastes, it is likely that teachers, like most people, sort themselves into the areas of the region most likely to meet their individual preferences for a given lifestyle.

V. Tenure, Seniority, and Sick Leave

Teachers with tenure are afforded certain privileges that non-tenured teachers do not enjoy. Since teachers give up tenure rights when they transfer to another state, a teacher's personal valuation of such rights may play a role when deciding whether or not to leave one position for another.

Tenured teachers are generally protected from layoffs when budget exigencies or declining enrollments require reductions in force. In most teacher contracts, non-tenured teachers must be laid off before tenured teachers in the same discipline. In cases where there are no non-tenured teachers to lay off, tenured teachers may be laid off, generally based on years of service to the district. While this fear was paramount in many states during the declining enrollments and budgets cuts of the 1970s, it has lessened somewhat today. However, job security is still something that teachers care about, and it cannot be overlooked.

Additionally, tenured teachers may not be dismissed without just cause; non-tenured teachers are more easily dismissed. In most contracts, tenured teachers are given preference for leaves of absence as well as sabbaticals. Many tenured teachers have recall rights to their jobs if a position opens in the district in the two years following a layoff. Finally, tenure is symbolic of job security, seniority, and achievement of status, which many teachers cherish.

Besides tenure, teachers are granted some benefits for each year they remain in a given district -- benefits that may be forfeited by moving to another district or state. The evidence on these benefits in the Northeast region is not fully known, but they are important incentives for teachers. A few words about one important benefit, accumulation of sick days, are in order.

Most contracts permit some accumulation of sick days. Some allow an unlimited number; others have limits that range from 150 to 300 days. The more of these days a teacher can accrue, the greater the incentive to stay in one district. Sick days have an economic value to teachers for several reasons.

The most obvious benefit of accumulated sick days is the protection it affords in the event of an injury or illness. These accumulated days, in effect, provide an insurance policy for the teacher and family in case of major illness or death. Where unlimited sick day accrual is possible, teachers have been known to accrue two years worth of such insurance.

In some contracts, unused sick days may be cashed in for a set price at retirement. If these sick days cannot be cashed in earlier or transferred, then there is an economic incentive to have a one-district career. For some teachers, this cash-in can result in a significant sum of money paid at retirement. In Westerly, Rhode Island, for instance, a teacher may cash in all accumulated sick days at the per diem rate at retirement. Seventeen of the forty districts in Rhode Island allow various forms of sick-day cash-in at retirement.

Some districts allow teachers to use their accumulated sick days during maternity. Teachers may be granted a six-month or year-long unpaid leave of absence after a baby is born but may use sick days for up to six weeks prior to birth. Rather than start a maternity leave prior to the baby's birth or take unpaid days, a teacher may receive full pay if she has accumulated enough sick days.

The extent to which these and other provisions are contained in contracts in the Northeast is unknown. We do know that sick days are generally not transferrable between states. Liberal sick leave policies, like any other fringe benefit, may serve as incentives to draw teachers to a given district or state.

VI. Conclusions and Policy Issues

This paper discussed a variety of incentives that can make a difference in attracting and retaining a sufficient number of high quality teachers. These incentives include salaries, retirement benefits, working conditions, quality of life, tenure and seniority rights, and sick leave. The states in the Northeast vary considerably in their ability to attract qualified teachers to begin and continue teaching.

While generalizations about individual states do not necessarily reflect the reality experienced by every individual district, a clear pattern emerges in the region. There is a cleavage in the level of incentives offered to teachers between the three northern New England states and New York and southern New England. Overall, New Hampshire, Vermont, and Maine are less attractive places to become and continue as a teacher. On the basis of salaries, retirement benefits, and working conditions, teachers "on the fence" will be attracted in greater numbers to Connecticut, New York, Massachusetts, and Rhode Island.

Low-incentive states must pursue policies that narrow the gap between themselves and high-incentive states if they are going to compete successfully for the teacher "on the fence." With an increased demand for teachers on the horizon, the ability of these states to attract such teachers will be critical in staffing the classrooms of the 1990s with quality personnel.

Reducing the barriers to movement between states in the region will aid the low-incentive states in increasing their teacher supply only if incentives in those states are improved as well. To reduce the barriers without closing the incentive gap will result in fewer qualified teachers willing to teach in the northern New England states, thereby making the problem worse instead of better.

State-level policymakers, however, cannot hope to influence all the incentives that affect a person's decision whether or not to enter teaching or to stay in the field. Quality of life and cost-of-living come immediately to mind. On the other hand, salaries, retirement regulations, tenure, and working conditions may be subject to state-level policy manipulation. These are some of the policy issues raised by this paper:

- What can be done to raise teachers' salaries to an attractive level?
- What can be done to make retirement systems more attractive?
- What working conditions can be improved by state policies and how?
- How can states alter tenure laws to encourage teacher mobility?
- Generally, what policies will improve the likelihood of a potential teacher choosing to teach in one state over another?

VII. Policy Recommendations

The following recommendations are developed for the consideration of the Chief State School Officers and other policy actors and stakeholders in the Northeast. The goal of these recommendations, as charged by the Chiefs, is to enhance the mobility of educators throughout the region and to establish a Northeast Common Market for educators. However, as mobility across states increases, states offering low levels of incentives will need to improve them or face even greater difficulty staffing their classrooms with skilled teachers. The teacher considering a move to a state with a high level of incentives will find that move easier to make if mobility is increased.

Salaries

Educator salary levels across the region fall into two tiers, a relatively high tier and a lower tier. New York, Connecticut, Massachusetts, and Rhode Island fall into the former; Maine, New Hampshire, and Vermont fall into the latter. Cost of living and quality of life may mitigate the impact of these differences. However, even with the cost of living figured into the equation, there exists a significant salary differential between the northern New England states and the rest of the Northeast. This problem is particularly acute in New Hampshire.

Recommendation:

Maine, New Hampshire, and Vermont should consider developing salary enhancement policies in order to make their teachers' salaries more competitive regionally. Massachusetts, because of high taxes and housing costs, may need to consider salary enhancement as well. Some work in this direction has already begun. But, if all states in the region do not guarantee competitive salaries to teachers (and, indeed, administrators), those states that do not will be at a distinct disadvantage in the competition for educators.

Initial steps in the direction of minimum starting salaries has been taken in several states in the region. Another option for consideration is the Connecticut plan, which raised salaries for all teachers, not just beginning teachers. This plan helps keep quality teachers from leaving the classroom and attracts former teachers back to the profession. Even with a tightening of certification requirements and a rigorous testing program, Connecticut has seen a dramatic increase in the number of teacher applicants.

Working Conditions

After salaries, working conditions are often cited as a critical issue for educators. Teachers frequently mention working conditions as the reason they leave the profession. There is a body of research that hypothesizes that satisfaction with working conditions is one requirement for recruitment and retention of quality professionals in education. Because of the difficulty in assessing working conditions in the states, further research in this area needs to be done before specific policy recommendation can be proposed.

Recommendations:

A survey of educators' attitudes about working conditions in the Northeast needs to be undertaken. This survey should be a collaborative effort among various stakeholders concerned about working conditions in schools across the region. The Regional Laboratory for Educational Improvement of the Northeast and Islands, via its Northeast Common Market project, should work with the project's Steering Committee and the region's professional associations to develop, orchestrate, and administer the survey. The results should also inform the conceptualization of the supply and demand database and simulation software being developed by The Massachusetts Institute of Social and Economic Research (MISER).

Questions that a working conditions survey might answer include:

1. What do teachers believe to be the most critical aspects of working conditions -- those most in need of improvement and those which, if improved, would have the greatest likelihood of keeping them in the profession or at their current work sites?

2. Of those working conditions, which are subject to state-level policy manipulation?

3. Of the programs implemented in the latest wave of school reform, which have had the most beneficial impact on working conditions?

4. How do the states compare in the quality of working conditions?

Retirement

Another key barrier to interstate mobility in the Northeast (and elsewhere) is the degree of portability of retirement benefits. In most cases, teachers and administrators, once they have invested any significant time in education, have a large stake in a state's pension system. In most cases, that investment is not portable; that is, it can not be readily transferred from one state to another.

For a common market to facilitate mobility of teachers and administrators throughout the Northeast, retirement benefits must readily transfer across state lines. Currently, the National Governors Association (NGA) is attempting to make portability possible across the country. If successful, this effort will accelerate the development of the Northeast Common Market.

Recommendations:

The states in the Northeast should adopt a position that supports the NGA efforts and should work to develop a policy of immediate vesting for teachers; OR

The states in the Northeast should allow educators to buy-in an unlimited number of years of experience when transferring between states or districts. The importing state would calculate the amount needed for the buy-in and any excess would be refunded to the employee. Any difference would have to be made up by the employee. Those teachers who must make up a deficit should be allowed to purchase credits in installments. This is similar to the system used in Canada.

Tenure and Seniority

Tenure and seniority benefit transfer are also important issues confronting educator mobility. In most school districts in the Northeast (as well as elsewhere in the country) educators lose seniority and tenure rights when they leave a district. These are key issues, given the shifting growth patterns in the region and the importance of tenure and seniority for job security.

Recommendation:

States in the region should consider developing and adopting policies that will support transfer of benefits like tenure and sick leave to a new district if that teacher changes districts (or states). States in the region that offer tenure should develop an agreement that reduces tenure requirements for experienced teachers entering different states. Connecticut, for example, allows teachers changing districts within the state to be tenured in approximately half the normal three-year period if tenure had previously been granted by another Connecticut district. A similar interstate agreement would promote interstate mobility and move toward a Northeast Common Market.

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APPENDIX A

The following table ranks each SMSA within a state on the nine factors that comprise the overall ranking. The scale is as follows: The highest ranking is 1, indicating an SMSA is rated best on a given factor; the lowest ranking is 329.

New York	Climate and Terrain	Housing	Health/ Env. Care	Crime	Trans-porta-tion	Educ-cation	Arts	Recre-ation	Economy	Overall Rank
Albany-Schenectady-Troy	248	171	85	54	15	17	64	175	111	19th
Binghampton	147	202	137	16	126	64	183	155	142	67th
Buffalo	111	180	36	176	70	50	24	62	218	13th
Elmira	251	108	253	50	230	86	223	185	248	214th
Glens Falls	248	112	329	47	305	221	263	130	202	290th
Nassau-Suffolk	31	298	9	45	311	33	22	14	22	6th
New York City	44	312	1	329	1	92	1	16	170	25th
Niagra Falls	143	149	269	101	60	268	234	132	282	212th
Orange County	216	281	79	112	233	181	40	134	116	121st
Poughkeepsie	235	278	299	61	158	127	246	165	42	201st
Rochester	316	233	53	147	84	5	38	50	69	32nd
Syracuse	152	148	131	79	14	44	57	44	281	20th
Utica-Rome	152	79	293	10	121	99	239	149	190	104th
NEW YORK AVG	177	196	152	94	133	99	126	109	161	

Massachusetts	Climate and Terrain	Housing	Health/ Env. Care	Crime	Trans-porta-tion	Educ-cation	Arts	Recre-ation	Economy	Overall Rank
Boston	55	300	3	266	16	14	5	32	60	2nd
Brockton	105	203	151	282	181	193	154	258	37	182nd
Fall River	40	248	153	134	119	293	252	105	238	191st
Fitchburg/Leominster	219	200	216	71	304	161	296	327	212	316th
Lawrence-Haverhill	152	287	105	152	200	285	147	131	51	154th
Lowell	186	266	123	116	178	285	104	274	47	189th
New Bedford	40	184	265	194	237	293	249	219	227	301st
Pittsfield	242	162	206	65	186	30	303	225	155	185th
Salem-Gloucester	38	301	100	31	215	193	98	80	69	56th
Springfield	268	179	200	264	66	10	93	201	178	143rd
Worcester	123	239	64	77	180	24	172	301	219	125th
MASSACHUSETTS AVG	133	234	144	150	171	162	170	196	136	

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Connecticut	Climate and Terrain	Housing	Health/ Env. Care	Crime	Trans-porta-tion	Educ-cation	Arts	Recre-ation	Economy	Overall Rank
Bridgeport-Milford	34	313	27	163	239	71	23	126	26	39th
Bristol	207	280	141	41	128	240	269	317	51	228th
Danbury	114	320	40	43	276	71	33	189	34	55th
Hartford	207	302	30	271	11	4	89	146	67	58th
New Britain	207	289	98	150	99	47	200	258	53	128th
New Haven-Meriden	95	299	50	146	79	11	28	182	156	42nd
New London-Norwich	95	284	254	61	127	31	217	74	45	70th
Norwalk	34	328	29	56	205	71	35	75	55	9th
Stamford	34	329	23	127	248	71	29	154	79	50th
Waterbury	114	279	102	108	285	88	291	295	136	300th
CONNECTICUT AVG	114	302	79	117	170	71	121	182	70	

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Rhode Island	Climate and Terrain	Housing	Health/ Env. Care	Crime	Trans-porta-tion	Educ-cation	Arts	Recre-ation	Economy	Overall Rank
Pawtucket-Woonsocket	87	261	114	91	105	62	271	202	206	125th
Providence	87	253	34	189	64	6	46	76	206	24th
RHODE ISLAND AVG	87	257	74	140	85	34	159	139	206	

New Hampshire	Climate and Terrain	Housing	Health/ Env. Care	Crime	Trans-porta-tion	Educ-cation	Arts	Recre-ation	Economy	Overall Rank
Manchester	295	272	190	61	120	196	272	310	32	259th
Nashua	172	292	146	24	232	196	146	199	36	139th
Portsmouth-Dover-Rochester	254	277	237	27	301	27	308	236	4	227th
NEW HAMPSHIRE AVG	240	280	191	37	218	140	242	248	24	

Maine	Climate and Terrain	Housing	Health/ Env. Care	Crime	Trans-porta-tion	Educ-cation	Arts	Recre-ation	Economy	Overall Rank
Bangor	270	124	182	69	55	109	155	89	201	84th
Lewiston-Auburn	232	90	186	98	261	213	253	136	284	263rd
Portland	238	187	163	122	82	95	130	20	76	54th
MAINE AVG	247	134	177	96	133	139	179	82	187	

Vermont	Climate and Terrain	Housing	Health/ Env. Care	Crime	Trans-porta-tion	Educ-cation	Arts	Recre-ation	Economy	Overall Rank
Burlington	304	267	63	32	10	22	177	21	43	18th

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APPENDIX B

Metro Areas and Component Counties

*indicates a Primary Metropolitan Statistical area

Albany-Schnectady-Troy, New York

Albany, Greene, Montgomery, Rensselaer, Saratoga, and Schenactady counties

Bangor, Maine

Parts of Penobscot and Waldo counties

Binghampton, New York

Broom and Tioga counties

Boston, Massachusetts*

Parts of Bristol, Essex, Middlesex, Norfolk, Plymouth, and Worcester counties; Suffolk county

Bridgeport-Milford, Connecticut*

Parts of Fairfield and New Haven counties

Bristol, Connecticut*

Parts of Hartford and Litchfield counties

Brockton, Massachusetts*

Parts of Bristol, Norfolk, and Plymouth counties

Buffalo, New York*

Erie county

Burlington, Vermont

Parts of Chittenden, Franklin, and Grand Isle counties

Danbury, Connecticut*

Parts of Fairfield and Litchfield counties

Elmira, New York

Chemung county

Fall River, Massachusetts*

Parts of Bristol County, MA; parts of Newport County, RI

Fitchburg-Leominster, Massachusetts

Parts of Middlesex and Worcester counties

Glens Falls, New York

Warren and Washington counties

Hartford, Connecticut*

Parts of Hartford, Litchfield, Middlesex, New London, and Tolland counties

Lawrence-Haverhill, Massachusetts

Parts of Essex County, MA; parts of Rockingham County, NH

Lewiston-Auburn, Maine

Parts of Androscoggin county

Lowell, Massachusetts*

Parts of Middlesex County, MA; parts of Hillsborough County, NH

Manchester, New Hampshire

Parts of Hillsborough, Merrimack, and Rockingham counties

Middleton, Connecticut*

Parts of Middlesex county

Nashua, New Hampshire*

Parts of Hillsborough and Rockingham counties

Nassau-Suffolk, New York*

Nassau and Suffolk counties

New Bedford, Massachusetts

Parts of Bristol and Plymouth counties

New Haven-Meriden, Connecticut

Parts of Middlesex and New Haven counties

New London-Norwich, Connecticut

Parts of New London and Windham Counties, CT; parts of Washington County, RI

New York, New York*

Bronx, Kings, New York, Putnam, Queens, Richmond, Rockland, and Westchester counties

Niagra Falls, New York*

Niagra county

Norwalk, Connecticut*

Parts of Fairfield county

Orange County, New York*

Orange County

Pawtucket-Woonsocket, Rhode Island

Parts of Providence County, RI; parts of Bristol, Norfolk, and Worcester Counties, MA

Pittsfield, Massachusetts

Parts of Berkshire County

Portland, Maine

Parts of Cumberland and York counties

Portsmouth-Dover-Rochester, New Hampshire

Parts of Rockingham and Stafford Counties, NH; part of York County, ME

Poughkeepsie, New York

Dutchess county

Providence, Rhode Island*

Parts of Bristol, Kent, Newport, Providence, and Washington counties

Rochester, New York

Livingston, Monroe, Ontario, Orleans, and Wayne counties

Salem-Gloucester, Massachusetts

Parts of Essex county

Springfield, Massachusetts

Parts of Hampden and Hampshire counties

Stamford, Connecticut

Parts of Fairfield county

Syracuse, New York

Madison, Onondaga, and Oswego counties

Utica-Rome, New York

Heikimer and Oneida counties

Waterbury, Connecticut

Parts of Litchfield and New Haven counties

Worcester, Massachusetts

Parts of Worcester county

APPENDIX C

Population in Metropolitan Areas in the Northeast

State	Percent Met.	Met. Pop.	Non-Met. Pop.
Connecticut	88.3%	2,744,452	363,124
Massachusetts	85.3	4,892,199	844,838
New Hampshire	50.7	466,794	453,816
New York	90.1	15,828,423	1,729,649
Maine	33.0	370,844	753,816
Rhode Island	92.2	873,130	74,024
Vermont	22.3	114,070	379,386
TOTAL	84.6	25,289,912	4,616,653

Source: State Demographics